

ACC NR: AP7002673

SOURCE CODE: UR/0109/67/012/001/0137/0139

AUTHOR: Bogdanov, G. B.; Vedrigan, V. Ye.

ORG: none

TITLE: Thermal stability of the resonant frequency of spherical SHF-resonators

SOURCE: Radiotekhnika i elektronika, v. 12, no. 1, 1967, 137-139

TOPIC TAGS: ferroelectric material, ferroelectric property, superhigh frequency, microwave component

ABSTRACT:

Thermal stability of the resonant frequency of spherical ferrite resonators was studied. A ferrite resonator (parameters: $2\Delta H = 100$ a/m; $M_s = 1.4 \times 10^5$ a/m; $d = 1.2$ mm) was placed in a circular polarization plane of the electromagnetic field located in a round opening in a single-mesh waveguide filter. The effects of the round opening on the ferromagnetic resonator were neglected. Temperature dependence of the anisotropic frequency deviation Δf on the isotropic resonance frequency corresponding to the coordinate origin of the filter was determined experimentally (see Fig. 1).

Card 1/2

UDC: 621.372.413.001.5

ACC NR: AP7002673

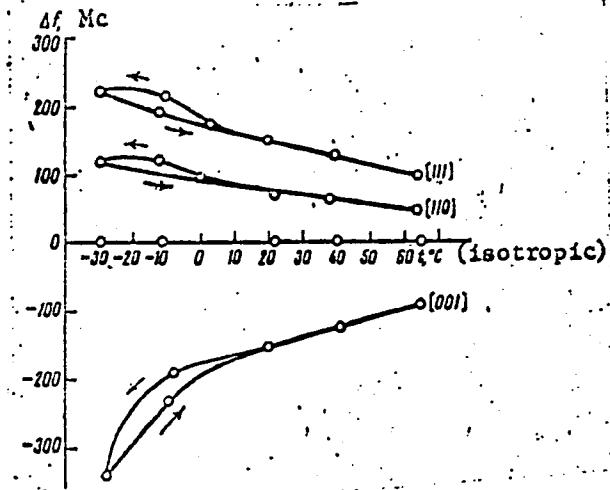


Fig. 1. Temperature dependence of the anisotropic frequency deviation Δf on the isotropic resonance frequency

A temperature hysteresis of the anisotropic deviations was found in the negative temperature region. Average temperature drift for the [111], [110], and [001] axes was -1.2, -0.1, and -1.5 Mc/C, respectively, but for the isotropic axis it was tens of megacycles (such small slopes cannot be seen in Fig. 1). Orientation of ferrite resonators along their isotropic resonance axis is fully effective only for narrow-band applications, owing to the occurrence of some non-uniform processes in the ferromagnetic material. Orig. art. has 3 figures.

SUB CODE: 09/ SUBM DATE: 14Jun66/ ORIG REF: 001/ OTH REF: 001/ ATD PRESS: 5111
Card 2/2

KIVERIN, Mikhail Dmitriyevich; SMIRNOVA, Mariya Grigor'yevna; VEDRINSKIY,
A.I., otv. za vypusk

[Organic chemistry] Predmet i soderzhanie organicheskoi khimii.
Arkhangel'sk, Arkhangel'skoe knizhnoe izd-vo, 1960. 20 p.

(MIRA 14:1)

(Chemistry, Organic)

KOLESNIKOV, N.N.; VEDRINSKIY, R.V.

Hypernuclei with two Λ -particles and their decay. Zhur. eksp.
i teor. fiz. 46 no. 5:1648-1652 My '64. (MIRA 17:6)

1. Institut yadernoy fiziki Moskovskogo gosudarstvennogo
universiteta.

ACCESSION NR: AP4037578

S/0056/64/046/005/1648/1652

AUTHORS: Kolesnikov, N. N.; Vedrinskiy, R. V.

TITLE: Hypernuclei with two particles and their decay

SOURCE: Zh. eksper. i teor. fiz., v. 46, no. 5, 1964, 1648-1652

TOPIC TAGS: Λ particle, hypernucleus decay, $\Lambda\Lambda$ interaction, global symmetry, two particle decay, three particle decay

ABSTRACT: Theoretical arguments are presented in favor of the existence of bound states of two Λ particles with nucleons, assuming no repulsion center in $\Lambda\Lambda$ interactions. A condition is derived for the energetic impossibility of the decay of a hypernucleus with emission of a Λ particle, and the order of magnitude of the binding energy is estimated on the basis of global symmetry. It is shown that a correlation should exist between the directions of emission of the pions produced in the decay of such systems. The successive

Card: 1/2

ACCESSION NR: AP4037578

meson decay of light hypernuclei with two particles is considered for the case when the first decay is either two-particle or three-particle, and the cross sections are evaluated for each case. Angular and energy distributions are estimated for some of the latest published data. Orig. art. has: 9 formulas.

ASSOCIATION: Institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta (Nuclear Physics Institute, Moscow State University)

SUBMITTED: 10Jul63 DATE ACQ: 09Jun64 ENCL: 00

SUB CODE: GP, NP NR REF SOV: 003 OTHER: 010

Card 2/2

L 14513-65 EWT(m) DIAAP/SSD/AFWL/ESD(t)
ACCESSION NR: AP5000324

S/0050/64/047/005/1740/1741

AUTHORS: Kolesnikov, N. N.; Vedrinskiy, R. V.

5

TITLE: Disintegration of Λ^3H in Coulomb field and pickup of Λ
particles by heavy nuclei

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 47,
no. 5, 1964, 1740-1741

TOPIC TAGS: tritium, lambda particle, particle disintegration,
Coulomb field, pickup reaction

ABSTRACT: A preliminary study was made of the disintegration of
 Λ^3H in the Coulomb field of heavy nuclei. In view of the small
binding energy of Λ^3H , it is assumed that its Coulomb disintegration
occurs principally when it is located at large distances from the
core (deuteron), so that the two-body approximation can be used and

Card 1/2

L 14513-65
ACCESSION NR: AP5000324

the deuteron can be assumed to be pointlike. The calculated value of the cross section is found to be quite large and to increase at low energies, decrease at high energies, and thus have a maximum. A crude estimate yields a maximum cross section of 150 barns for silver at an energy of 4.5 MeV. It is shown further that the hyperons released can be captured by the nuclei with appreciable probability. For silver at primary H^3 energy of 15 MeV the corresponding cross section is ~1.5 barn.¹ Orig. art. has: 2 formulas.

ASSOCIATION: Moskovskiy gosudarstvenny^y universitet (Moscow
State University)

SUBMITTED: 14Feb64

ENCL: 00

SUB CODE: NP

NR REF Sov: 003

OTHER: 005

Card 2/2

VEDRINSKIY, R.V.

Slight disturbances of symmetry. Izv. vys. ucheb. zav.; fiz. no.5:
139-143 '64. (MIRA 17:11)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

KOLESNIKOV, N.N.; VEDRINSKIY, R.V.

Splitting of Λ H³ in a Coulomb field and the capture of Λ -particles
by heavy nuclei. Zhur. eksp. i teor. fiz. 47 no.5:1740-1741 N '64.
(MIRA 18:2)
J. Moskovskiy gosudarstvennyy universitet.

VEDRINOVICH, R.V.; *Vestn. Mosk. un.*, 1965,

Splitting of hypernuclei in a Coulomb field. *Vestn. Mosk. un. Ser. 3: Fiz., astron.*, 20 no.2:71-80 Mr-Apr '65.

(MIRA 18:5)

1. Kafedra kvantovoy teorii Moskovskogo universiteta.

VEDRINSKIY, R.V.

Evaluation of wave functions analytical with respect to
energy. Vest. Mosk. un. Ser. 3 Fiz., astron. 19
no.4:81-82 J1-Ag '64. (MIRA 17:10)

1. Nauchno-issledovatel'skiy institut yadernoy fiziki
Moskovskogo universiteta.

L 44043-66 EWT(m)/T

ACC NR: AP6032235

SOURCE CODE: UR/0367/66/003/005/0916/0950

AUTHOR: Kolesnikov, N. N.; Vedrinskiy, R. V.49
B

ORG: Institute of Nuclear Physics, Moscow State University (Institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta)

TITLE: Interactions of light hypernuclei and lambda-particles with nuclei

SOURCE: Yadernaya fizika, v. 3, no. 5, 1966, 946-950

19

TOPIC TAGS: nuclear emulsion, particle interaction, Coulomb field

ABSTRACT: The disintegration of light hypernuclei in the Coulomb field of heavy nuclei is investigated in the low and high energy approximations and also in the quasiclassical case. The cross-section of the process is sensitive to the value of the hypernuclear binding energy B_Λ . For Λ^3H , where B_Λ is anomalously small, the cross-section can become very large, so that the Coulomb disintegration must be taken into account when analyzing Λ^3H tracks in photoemulsion and in the production of hypertritium. The probability of Λ -particle capture by heavy nuclei, with the formation of heavy hypernuclei and emission of nucleons, is estimated. Orig. art. has: 14 formulas. [JPRS: 36,712]

SUB CODE: 20 / SUBM DATE: 13Jul65 / ORIG REF: 007 / OTH REF: 003

Card 1/1 BLG

0919 1260

Vedrinskiy, V.

AID P - 2239

Subject : USSR/Aeronautics

Card 1/1 Pub. 135 - 3/19

Author : Vedrinskiy, V., Capt.

Title : On "Reaching the target at a given time"

Periodical: Vest. vozd. flota, 7, 15-18, J1 1955

Abstract : The author discusses critically an article of this title by Bulatov, A., Artyunov, V., and K. Chemard printed in this periodical earlier this year Feb. 1955. He points out that only two methods of reaching the target at a given time are considered and that only one gives satisfactory results. He points out errors and suggests solutions. Diagrams, formulae.

Institution: None

Submitted : No date

VEDRINTSEV, G.A.

Calculation of GVK-2 plates of electric sounding (horizontal-
vertical contacts of four media with $\epsilon' 4 = \infty$). Prikl. geofiz.
no.36:253-255 '63. (MIRA 16:9)
(Electric prospecting)

VEDRINTSEV, G.A.

Problems in the technique and interpretation of electric soundings
in case of distinct structural forms of a high-resistivity base
horizon. Prikl. geofiz. no.29:72-119 '61. (MIRA 14:6)
(Electric prospecting)

VEDRINTSEV, G.A.

Field laboratory for electric prospecting in the Far North.
Razved.i prom.geofiz. no.10:18-25 '54. (MIRA 13:2)
(Arctic regions—Electric prospecting)

"APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001859220019-4

VEDRINTSEV, G.A.

Transformation of observed electric survey curves. Razved. i prom.
geofiz. no.25:57-66 '58. (MIRA 12:4)
(Prospecting--Geophysical methods)

APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001859220019-4"

BERDICHEVSKIY, M.N.; VEDRINTSEV, G.A.

Differential transformations of electric sounding curves. Razved.
i okh. nodr 29 no.7:46-49 Jl '63. (MIRA 16:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh
metodov razvedki.
(Electric prospecting)
(Transformations (Mathematics))

VEDRINTSEV, G.A.; TSEKOV, G.D.

Obtaining multi-layer theoretical curves of vertical electrical prospecting by means of analysis and combination with graphic methods. Razved i prom. geofiz. no.20:36-46 '57. (MIRA 11:4)
(Prospecting--Geophysical methods)

~~VEDRINTSEV~~, G. A.

Theory of electric sounding of horizontal inhomogeneous media.
Prikl. geofiz. no.26:30-69 '60. (MIRA 13:8)
(Electric prospecting)

S/169/62/000/007/072/149
D228/D307

AUTHOR: Vedrintsev, G. A.

TITLE: Modelling electric soundings over three-layer structures with inclined interfaces ($\rho_1 > \rho_2, \rho_2 < \rho_3, \rho_3 = \infty$)

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 7, 1962, 32-33,
abstract 7A214 (V sb. Razved. i promsl. geofiz.,
no. 41, M., 1961, 52-73)

TEXT: The nature of curves of soundings over three-layer structures with inclined interfaces is studied by the method of modelling. The modelling was carried out in an electrolytic bath with the use of electrode lattice partings, whose theory was developed by L. M. Al'pinyy. Soundings with dipole-equatorial equipment, symmetrical vertical electric soundings, and soundings with the three electrode equipment $AMN-B \rightarrow \infty$ ($AMN-B \rightarrow \infty$) were carried out in the modelling. The graphs obtained for the impedance quite clearly reflect the main features of the sections under study:

Card 1/2

VEDRINTSEV, G.

Electric logging of horizontal nonhomogeneous media. Izv. vys. ucheb.
zav.; geol. i razv. 3 no.5:125-127 My '60. (MIRA 13:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh
metodov razvedki. (Electric prospecting)

VEDRINTSEV, Kh.V., uchitel'; POZERN, I.V. (Kostroma); NIKITIN, I., uchitel';
KHUDIS, R.V., uchitel'nitsa (selo Nisporeny Moldavskoy SSR)

Letters to the editors. Geog. v shkole 24 no.4: 71-73 Jl-Ag '61.
(MIRA 14:8)

1. Pushkarskaya shkola Lipetskoy oblasti (for Veirintsev). 2. 5-ya
shkola g. Solnechnogorska (for Nikitin).
(Geography--Study and teaching)

"APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001859220019-4

YEV VEDROV, N. S.

DECEASED 1950

SEE ILC

Medicine

APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001859220019-4"

VEDROV V. S.

Materialy po aerodinamicheskому raschetu samoletov. Sbornik statei.
Pod red. V. L. Aleksandrova. Moskva, 1929. 191 p., illus ., tables,
diags. (TSAGI. Trudy, no. 42) Summary in English.

Title tr.: Materials of aerodynamic aircraft design.

QA911.M65 no. h2

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library
of Congress, 1955

VEDROW, V. S., and IU. K. STANKEVICH.

Issledovanie v polete shtopora samoleta R-5 s ruliami razlichnoi formy.
(Tekhnika vozдушного flota, 1934, no. 3, p. 1-27, illus., tables, diagrs.)

Title tr.: Investigation of the spinning characteristics in flight of the
R-5 airplane with various forms of control surfaces.

TL501.Th 1934

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of
Congress, 1955.

VEDROV, V.S. and I.V. OSTOSLAVSKII

Raschet obduvki monoplannnykh kryl'ev s vintami pered krylom. Moskva, 1935. 20 p., diagrs. (TSAGI. Trudy, no. 232)

Summary in English.

Title tr.: Calculation of the slipstream effect on the efficiency of monoplane wings with propellers located before the wing.

QA911.M65 no.232

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress,
1955

VEDROV, V. S., V. P. GORSKII and M. A. TAITS.

Sravnenie rezul'tatov ispytanii plati samoletov v trube i v polete.
(TSAGI. Trudy, 1935, no. 214, p. 5-17, diagrs.)

Summary in English.

Title tr.: Comparative results obtained by wind tunnel and flight tests
of five airplanes.

QA911.M65 no. 214

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of
Congress, 1955.

VEDROV, V.S.

O vliianii uprugosti kryl'ev na peregruzki pri posadke samoletov. Moskva, 1935.
10 p. diagrs. 'TSAGI. Trudy, no.219)

Title tr.: Effect of wing elasticity upon loads imposed on it during landing of aircraft.

QA911.M65 no.219

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress,
1955

VEDROV, V. S., S. A. KOROVITSKII, and IU. K. STANKEVICH.

Issledovanie shtopora samoleta R-5 v polete. Moskva, 1935. 48 p., illus., tables, diagrs. (TSAGI. Trudy, no. 228)

Summary in English.

Bibliography: p. 48.

Title tr.: Spin flight testing of the R-5 airplane.

QA911.M65 no. 228

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

VEDROV, V. S., and G. S. KALACHEV.

Issledovanie vykhodov iz planirovaniia samoleta R-5. Moskva, 1935. 39 p.,
illus., tables, diagrs. (TSAGI. Trudy, no. 244)

Summary in English.

Title tr.: Investigation of pull-out from dives of the R-5 airplane.

QA911.M65 no. 244

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of
Congress, 1955.

VEDROV, V. S.

Ob ustoichivosti dvizheniya. Moskva, 1937. 16 p. (TSAGI. Trudy, no. 327)

Title tr.: On the stability of motion.

QA911.M65 no. 327

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955

VEDROV, V. S.

VEDROV, V. S.

Dinamicheskaiia ustoiichivost' samoleta. Utverzhdeno v kachestve uchebnika dlia vtuzov NKOP. Moskva, Oborongiz, 1938. 294 p., diagrs.

Bibliography: p. 291-293.

Title tr.: Dynamical stability of aircraft. Approved as a textbook for schools of advanced technical studies of the People's Commissariat of the Aviation Industry.

TL574.S7V4

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

VEDROV, V. S.

O vrednom vliianii vesovoi balansirovki rulja vysoty na staticeskuiu ustoichivost'.
(Tekhnika vozduzhnogo flota, 1938, 1938, v. 12, no. 5, p. 1-4)

Title tr.: Adverse effect of mass balancing the elevator on the statical stability of aircraft.

TL504.T4 1938

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress,
1955

"APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001859220019-4

VEDROV, V. S. Prof.

"Forces Acting on Pneumatic Tires Rolling on Curvature," Tekh. vosp. flota, May 1941

APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001859220019-4"

"APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001859220019-4

VEDROV, V. S. and TAYTS, M. A.

"Summer Testing of Aircraft," 1951

APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001859220019-4"

VEDROV, V. S.

PHASE I

TREASURE ISLAND BIBLIOGRAPHICAL REPORT

AID 279 - I

BOOK

Authors: VEDROV, V. S., and TAYTS, M. A.

Full Title: AIRCRAFT FLIGHT TESTS

Transliterated Title: Letnyye ispytaniya samoletov

Publishing Data

Originating Agency: None

Publishing House: State Publishing House of the Defense Industry
(Oborongiz)

Date: 1951 No. pp.: 483 No. of copies: Not given

Editorial Staff

Editor: None Tech. Ed.: None

Editor-in-Chief: None Appraiser: None

Others: Gratitude is expressed to: Pyshnov, V. S., Professor,
Goroshchenko, B. T., Professor, Doctor of Technical
Science, Stroyev, N. S., Kalachev, G. S., Kostochkin,
V. V., Candidates of Technical Science; and to
Sidorova, M. A., Engineer

Text Data

Coverage: The authors describe the general theory and basic methods
of testing aircraft and aircraft powerplants in flight.
The information can be applied by the reader to solve new

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Letnyye ispytaniya samoletov

AID 279 - I

problems.

In general the testing methods described are not new or original. However, the book might be of interest because it describes the present testing methods used in the USSR, and because of its theoretical and general approach to this problem.

TABLE OF CONTENTS: Chapters I. Atmosphere, (p. 11); II. Preparation for Testing, (p. 33); III. Errors in Measurement in Flight Testing, (p. 45); IV. Theory of Speed and Altitude-Measuring Instruments, (p. 64); V. Methods of Determination of Speed and Altitude, (p. 86); VI. General Methods of Reducing Flight Data to Standard Conditions, (p. 107), VII. Basic Information on the Conversion of Engine Characteristics, (p. 125); VIII. Determination of Maximum Horizontal and Vertical Speeds, and of the Aircraft's Ceiling, (p. 168); IX. Reduction to the Standard Atmosphere Conditions the Maximum Speed and Rate of Climb Data of Aircrafts with Low Altitude Piston Engines, (p. 189); X. Reduction to Standard Atmospheric Condition of the Maximum Speed and the Rate of Climb Data of Aircraft with

2/4

Letnyye ispytaniya samoletov

AID 279 - I

High Altitude Piston Engine supplied with Variable-pitch propeller Automatic Control, (p. 204); XI. Reduction to the Standard Atmospheric Conditions the Maximum Speed and Rate of Climb of Aircraft with Turbojet Engines, (p. 229); XII. Methods for Measuring Trajectory Elements, (p. 275); XIII. Determination of Stability and Controllability of an Aircraft, (p. 293); XIV. Testing Aircraft for Maneuverability, Spin, and Terminal Velocities, (p. 338); XV. Determination of Take-off and Landing Characteristics of an Aircraft, (p. 356); XVI. Fuel Consumption and the Flying Range, (p. 378); XVII. Testing Turbojet Engines, (p. 420); XVIII. Testing Piston Engines, (p. 378); XIX. Testing Engine-Cooling Systems, (p. 448); XX. Testing of Fuel, Water, and Oil Systems, (p. 463). The major part of the diagrams in this book are graphical representations of the textual data.

Purpose: A textbook approved by the USSR Ministry of Higher Education for aviation universities. It may be also used as a handbook by workers of design bureaus, research institutes, and flying stations of aviation industry plants.

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Letnyye ispytaniya samoletov

AID 279 - I

Facilities: A number of Scientists and of aviation institutions of
the USSR are mentioned in the text.

No. of Russian and Slavic References: 3 before 1938, and 17 after
this date.

Available: A.I.D., Library of Congress.

4/4

VEDROV, V. S.

PHASE I BOOK EXPLOITATION

350

Vedrov, V. S., Romanov, G. L., and Surina, V. N.

Samolet kak ob'yekt regulirovaniya; strukturnyye skhemy uravneniy
vozmushchennogo dvizheniya samoleta (The Control of Aircraft;
Block Diagrams of Equations for Disturbed Motions of an Air-
craft) Moscow, Oborongiz, 1957. 42 p. 1,020 copies printed.

Sponsoring Agency: USSR Ministerstvo aviatcionnoy promyshlennosti
(Its Trudy, Nr 74)

Ed.: Ignat'yeva, A. V.; Tech Ed.: Lebedeva, L. A.

PURPOSE: Presentation of results of scientific research.

Card 1/5

The Control of Aircraft (cont.)

350

COVERAGE: This paper treats the representation of the equations of disturbed motion of an aircraft in terms of block diagrams of closed-loop systems with first- and second-order components, where the input and output signals have a definite physical meaning. The characteristics of the individual components and their variation with aircraft speed and altitude are briefly analyzed. A derivation of the transfer functions in rudder and aileron control is given, and also simplified expressions for the transfer functions in relation to the frequency band, which corresponds to the degeneration of the disturbed motion into simple types. The method of representing the equations of disturbed motion of an aircraft in terms of block diagrams of closed-loop systems permits ready application of the techniques of modern control theory, such as the frequency-response method, the theory of feedback loops, block-diagram analysis, etc., to the analysis of aircraft motion in stability and control problems, and also makes it possible to set up simplified equations of motion as well as transfer functions for control of motion by means of control surfaces. In contrast to existing methods, which

Card 2/5

The Control of Aircraft (cont.)

350

yield approximate transfer functions for rapid angular motions about the center of gravity, these methods readily permit obtaining approximate expressions for transfer functions for the slow motions associated with displacements of the center of gravity. The report contains 7 tables and 15 figures. There are 15 bibliographic references, 4 Russian, 5 American, 1 British, 4 French, and 1 Belgian. The authors express their gratitude for valuable advice to M.A. Tayts, Doctor of Technical Sciences, and Ye.N. Arsen'yev, Engineer.

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Card 4/5

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AVAILABLE: Library of Congress	
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IS/EDeV
7-1-58

SOV/124-58-7-7500

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 7, p 26 (USSR)

AUTHORS: Vedrov, V.S., Romanov, L.G., Surina, V.N.

TITLE: The Aircraft as an Object of Control (Analog Circuits for the Equations of Perturbed Aircraft Motion) [Samolet kak ob'yekt regulirovaniya (strukturnyye skhemy uravneniy vozmushchennogo dvizheniya samoleta)]

PERIODICAL: Tr. M-va aviats. prom-sti SSSR, 1957, Nr 74, 44 pages ill.

ABSTRACT: The methods of the theory of automatic control are used to investigate an instance of perturbed aircraft motion that is not far removed from the aircraft's normal steady-state motion prior to perturbation. Linearized equations for the perturbed motion are examined which are in fact systems of linearized fourth-order equations with constant coefficients. In addition, an investigation is made of nonhomogeneous equations the right-hand sides of which allow for possible small deflections of wing and tail control surfaces caused by the pilot. The flight of an aircraft without an automatic pilot is analyzed. The paper, which consists of two sections, deals in the first section with the longitudinal perturbations of an aircraft's motion, in the

Card 1/3

SOV/124-58-7-7500

The Aircraft as an Object of Control (cont.)

second section with the lateral perturbations. Each section is comprised of three paragraphs. The first paragraph of each section shows how analog circuits for the equations of a perturbed motion (longitudinal or lateral) can be set up. It turns out that some of the links of the analog circuit form a closed "stability contour" (i.e., a contour of stabilization), whereas the remaining links constitute "branches" of the outputs of the various parameters of the motion, or inputs containing the control-surface deflections ("control links"). The analog circuit for the longitudinal motion is so set up that its stability contour includes the variations in speed and angle of attack. The "branches" include the variations in the pitch attitude, the flight altitude, the slope of the flight path, and elevator deflection. In the analog circuit for the lateral motion the stability contour includes the variations in the angle of bank and yawing velocity. One of the "branches" represents the output of the sideslip angle. The second paragraph of either section contains a brief analysis of the characteristics of the individual links. An account is given of the amplitude-frequency and phase-frequency characteristics of the links making up the stabilization contour. They are set up to simulate aerodynamic coefficients that characterize modern subsonic jet aircraft. The relationship of the characteristics of the links to the flying speed and flight altitude is then analyzed. In each of the third paragraphs transfer functions are evolved for the

Card 2/3

SOV/124-58-7-7500

The Aircraft as an Object of Control (cont.)

control of an aircraft with tail control surfaces and ailerons. To simplify analysis of the transfer functions and to enhance clarity, the authors at the end of each section give approximate simplified theories of the transfer functions. These theories are based on the fact that in both the longitudinal and the lateral motion the frequencies of the individual links are widely separated from one another on the frequency scale. In the first section a theory is offered for the short-period high-frequency perturbed motion, followed by a theory of the long-period perturbed motion. In the second section, transfer functions are obtained for three distinct types of perturbed motion, considered separately: a slow spiral motion, a rapid oscillatory motion (with the use of the rudder control only), and a fast rolling motion (with control by the ailerons only).

L.V. Klimenko

1. Aircraft--Control systems 2. Airplanes--Performance 3. Mathematics--Applications
4. Control systems--Theory

Card 3/3

VOLAKOVA, N.; JANDASEK, L.; HABANEC, B.; VEDROVA, D.; ZBYTOVSKY, B.; VOBECKY, J.

Epidemic of myocarditis in newborn infants caused by Coxsackie
B1 virus. Česk. epidem. 13 no. 2:88-95 8 My'64

I. Mikrobiologicky ustav lek.fak.UJEP, Brno; II. Patol.-anat.
ustav lek.fak. UJEP, Brno; I.Detska klinika lek. fak. UJEP,
Brno; OUNZ Boskovice a KHES v Brne.

*-

VEDROVA, D.

Effect of splenectomy in the newborn period on further development
in children. Cesk. pediat. 18 no.2:150-154 F '63.

1. I. detska klinika lekarske fakulty UJEP v Brne, prednosta prof.
dr. Zd. Brunecky.

(SPLENECTOMY) (GROWTH) (ERYTHROCYTE COUNT)
(LEUKOCYTE COUNT) (BLOOD PLATELETS) (RETICULOCYTES)
(INFANT PREMATURE DISEASES) (SPLENIC RUPTURE)

HLAVON, Jiri; VEDROVA, Drahomila

Effect of glucuronic acid on hyperbilirubinemia in newborn infants
and on the elimination of bile pigments in the feces. Cas. Lek. Cesk.
101 no.11:327-331 16 Mr '62.

1. I detska klinika lek. University J. Ev. Purkyne v Brne, prednosta
prof. MUDr. Zd. Brunecky.

(GLUCURONATES pharmacol) (BILIRUBIN blood)
(FECES chemistry)

POLITZER, Max; VEDROVA, Drahomira

Obstruction of the lacrimal apparatus in premature infants. Cesk. oftal. 18 no.1:29-33 Ja '62.

1. Ocni klinika University J.Ev. Purkyne v Brne, prednosta prof. MUDr. J. Vanysek, Dr.Sc. I. detska klinika University J. Ev. Purkyne v Brne, prednosta prof. MUDr. Z. Brunecky.
(LACRIMAL APPARATUS diseases) (INFANT PREMATURE diseases)

VEDROVA, I. N.

Vedrova, I. N. - "A singular case of epidermodysplasia verruciformis," Vestnik Venerologii i Dermatologii, 1949, No. 2, p. 46-48, - Bibliog: p. 47-48

SO: U-4934, 29 Oct 53, (Letopis 'Zhurnal 'nykh Statey, No. 16, 1949).

VEDROVÁ, I. N.

Chemical Abstracts
Vol. 48 No. 5
Mar. 10, 1954
Antibacterial Chemistry

Evaluation of method of determination of penicillin concentration in organs of experimental animals. T. N. Vedrova (Central Dermatol.-Venereal Inst., Ministry Health, Moscow). *Vestnik Venereal. Dermatol.*, 1953, No. 6, 25-6. In extn. of penicillin from animal tissues better results are obtained with use of Et₂O and BuOAc when the method of serial dilns. is employed. For extn. with phosphate buffer the plate method can be used. Q. M. Kosolapoff

VEDROVA, I. N.

Dissertation: "The Effect of Overheating on the Content of Penicillin in the Organs and Tissues of Healthy Rabbits and of Those Infected with Syphilis." Cand Med Sci, Moscow Medical Stomatological Inst, Ministry of Health, RSFSR, Moscow, 14 Jun 54. (Meditinskij Rabotnik, Moscow, 4 Jun 54)

SO: SUM 318, 23 Dec. 1954

VEDROVA, I.N.

Effect of heat on the penicillin content of organs and tissues of healthy and syphilitic rabbits. Vest. ven. i derm. no.5:36-40
S-0 '55. (MLRA 9:1)

1. Iz otdela sifilidologii (zav. prof. N.S. Smelev) Tsentral'nogo kozhno-venerologicheskogo instituta (dir. dots. N.M. Turavov) Ministerstva zdravookhraneniya SSSR i kafedry kozhnykh i venericheskikh bolezney (zav. prof. B.M. Pashkov) Moskovskogo meditsinskogo stomatologicheskogo instituta (dir. dots. G.N. Beletskiy)

(SYPHILIS, experimental,
eff. of fever on penicillin contents in rabbits)

(FEVER, EFFECTS,
on exper. syphilis treated with penicillin in rabbits)

(PENICILLIN, effects,
on exper. syphilis, combined with fever ther. in rabbits)

LAPTEV, V.A., starshiy nauchnyy sotrudnik, konsulentskyy vrach RSFSR; VIEROVA,
I.N., kandidat meditsinskikh nauk

Limited recurrent bullous eruptions in patients with pronounced
porphyrinuria. Vest.ven. i derm. no.3:15-18 My-Je '56. (MLRA 9:9)

1. Iz otdela dermatologii (zav. - prof. N.S.Smelov) TSentral'nogo
kozhno-venerologicheskogo instituta (dir. - dotsent N.M.Turanov)
Ministerstva zdravookhraneniya SSSR.

(PORPHYRIN, in urine,
excess in dermatitis bullosa (Rus))

(DERMATITIS,
bullosa with porphyrinuria (Rus))

(URINE,
porphyrinuria in dermatitis bullosa (Rus))

SKRIPKIN, Yu.K.; SHARAPOVA, G.Ya.; VEDROVA, I.N.

Treatment of trophic ulcers with cygerol. Vest.derm. i ven.
37 no.1:77-78 Ja'63. (MIRA 16:10)

1. Iz kafedry kozhnykh i venericheskikh bolezney (zav. - prof.
M.M.Zheltakov) II Moskovskogo meditsinskogo instituta imeni
N.I.Pirogova.
(ULCERS) (ACETIC ACID—THERAPEUTIC USE)

VEDROVA, I. N.; SHARPOVA, G. Ya.

Treatment of children with eczema, prurigo and diffuse neuroderma-titis with ACTH and cortisone. Pediatriia no.11:60-64 '61.
(MIRA 14:12)

1. Iz kafedry kozhnykh i venericheskikh bolezney (zav. - prof.
M. M. Zheltakov) II Moskovskogo meditsinskogo instituta imeni
I. N. Pirogova.

(SKIN--DISEASES) (ACTH) (CORTISONE)

VEDROVA, I.N., assistant

Treatment of patients with psoriasis with vitamin A and irradiation
with a mercury-quartz lamp. Sov. med. 25 no.8:111-113 Ag '61.
(M:1:A 15:1)

1. Iz kafedry kozhnykh i venericheskikh boleznei (zav. - prof.
M.M.Zheltakov) II Moskovskogo gosudarstvennogo meditsinskogo instituta
imeni N.I.Pirogova.
(PSORIASIS) (VITAMINS--A)
(ULTRAVIOLET RAYS--THERAPEUTIC USE)

SKRIPKIN, Yu.K.; SOMOV, B.A.; VEDROVA, I.N.

Treatment of verruca plantaris, plana and vulgaris with Gordeev's
paste. Sov. med. 25 no.5:151-153 My '61. (MIRA 14:6)

I. Iz kafedry kozhnykh i venericheskikh bolezney (zav. - prof. M.M.
Zheltakov) II Moskovskogo meditsinskogo instituta imeni N.I.Pirogova
(dir. - dotsent M.G.Sirotina).
(FOOT--TUMORS) (CYTOTOXIC DRUGS)

KOGAN, A.Kh.; CHECHULIN, A.S.; Prinimali uchastiye: VEDROVA, N.N., student;
FILIMOVA, M.V., student (Moskva)

Analysis of the importance of the mechanical factor in the blasto-
mogenic action of compressive cellophane capsules applied to the
kidneys. Arkh.pat. 20 no.1:44-49 '58. (MIRA 13:12)

1. Iz kafedry patofiziologii (zav. - prof. S.M.Pavlenko) i iz
TSentral'noy nauchno-issledovatel'skoy laboratorii imeni prof.
S.I. Chechulina (zav. A.S.Chechulin) I Moskovskogo ordena Lenina
meditsinskogo instituta imeni I.M. Sechenova.
(KIDNEYS--TUMORS) (CELLOPHANE--PHYSIOLOGICAL EFFECT)

VEDROVA, I.N.; CHISTYAKOVA, I.A.

Treatment of psoriasis with the anthraminic ointment. *Vest. derm.*
i ven. 38 no. 7:73-74 Jl '64. (MIRA 18:4)

1. Kafedra kozhnykh bolezney (zav. - prof. M.M.Zheltakov) II
Moskovskogo meditsinskogo instituta imeni Pirogova i Moskovskiy
gorodskoy kozhno-venerologicheskoy dispanser.

RYEKN, I.N.; VEDROVA, N.N. (Moskva)

Therapeutic action of ermit in stenocardia. Klin.med. no.1:40-
(MIRA 15:1)
43 '62.

1. Iz propedevticheskoy terapevticheskoy kliniki (dir. - deyst-
vitel'nyy chlen AMN SSSR prof. V.Kh. Vasilenko) I Moskovskogo
ordena Lenina meditsinskogo instituta imeni I.M. Sechenova.
(ANGINA PECTORIS) (VASODILATORS)

RYBGIN, I. N.; VEDROVA, N. N. (Moskva)

Post-commissurotomy syndrome (preliminary report) Klin. ned. no. 11
(MIRA 14:12)
70-73 '61.

1. Is propedavticheskoy terapeuticheskoy kliniki (dir. - deystvitel'nyy chlen AMN SSSR prof. V. Kh. Vasilenko) I Monkovskogo ordena Lenina meditsinskogo instituta imeni I. M. Sechenova.

(MITRAL VALVE--SURGERY)

Vedula, Yu.

109-12-7/15

AUTHORS: Vedula, Yu.S. and Gavril'yuk, V.M.

TITLE: Thermo-chemical Reduction of Barium Oxide by Various Activators (Termokhimicheskoye vosstanovleniye bariya iz ego okisi razlichnymi aktivatorami)

PERIODICAL: Radiotekhnika i Elektronika, 1957, Vol.II, No.12,
pp. 1519 - 1524 (USSR)

ABSTRACT: Understanding of the mechanism of the operation of thermionic cathodes requires the knowledge of the value of the saturated barium vapour pressure in the presence of BaO and the activators. This work aimed at determining the pressure and its temperature dependence. The experiments were carried out on a special tube which is shown in Fig. 1. The tube consisted of: 1) a container; 2) a heater; 3) a tungsten ribbon; 4) an electron gun, and 5) an Alpert-type ionisation vacuum gauge. The investigated reaction was taking place in the container, which consisted of two hollow cylinders. The container had an aperture of about 0.5 mm at its lower end. The stream of barium atoms ejected from the aperture of the container was collected by the tungsten ribbon. The experimental results of an investigation of the reactions of $BaCO_3$ and BaO, where BaO is a product of the decomposition of $BaCO_3$, are

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109-12-7/15

Thermo-chemical Reduction of Barium Oxide by Various Activators.

illustrated in Figs. 2, 3, 4, 5 and 6. Fig. 3 shows the barium vapour pressure as a function of temperature for a cathode with tungsten activator (the tungsten was in the form of a very fine powder). A similar curve for the barium vapour pressure of a system with silicon activator is given in Fig. 4, while Figs. 5 and 6 show the pressure for tantalum and titanium activators, respectively. The results are additinally summarised in Table 1, p.1524. From the data obtained, it follows that, at 1 600° K, molybdenum has the lowest reducing properties and it is followed by silicon, tungsten and tantalum; at operating temperatures of about 1 300° K, the reducing properties are the lowest in molybdenum and the highest in titanium. The authors thank N.D. Morgulis for his constant attention and help. There are 6 figures, 1 table and 19 references, 8 of which are Slavic.

ASSOCIATION: Physics Institute AS Ukrainian SSR, Kiyev
(Institut fiziki AN USSR, g. Kiyev)

SUBMITTED: May 8, 1957.

AVAILABLE: Library of Congress
Card 2/2

VEDULA, Yu.S. [Vedula I.U.S.]; GAVRILYUK, V.M. [Havryliuk, V.M.]

Adsorption of barium atoms and barium oxide molecules on tungsten.
Part 1. Ukr.fiz.zhur. 3 no.5:632-650 S-0 '58. (MIRA 12:2)

1. Institut fiziki AN USSR.
(Adsorption) (Barium) (Bariumoxide)

~~24(6)~~ 24.7700

66277

SOV/181-1-11-12/27

AUTHORS: Vedula, Yu. S., Gavrilyuk, V. M., Morgulis, N. D.

TITLE: On the Electronic and Adsorption Properties of Films of Barium Atoms on the Surface of Tungsten Coated With Oxygen

PERIODICAL: Fizika tverdogo tela, 1959, Vol 1, Nr 11, pp 1717 - 1719 (USSR)

ABSTRACT: Investigations were carried out to establish whether Ba-O-W-films are suitable for thermal cathodes. A measure for the suitability is the work function (ϕ) of the electrons and the increased adsorption stability of these layers. The measuring method is described in detail in reference 1. The films Ba-O-W ($\phi_K = 5.1$ ev, 5.5 ev, 5.9 ev, 6.3 ev) were examined in the temperature range $800 - 2000^{\circ}\text{K}$. The measuring results are graphically presented in figure 1. It is remarkable for the Ba-O-W-system that a noticeable irregularity occurs from $1400 - 1500^{\circ}\text{K}$, which still has to be clarified. Comparing the Ba-O-W-system with the BaO-W-system it appears as if, in the BaO-W-system, the BaO-molecule would completely evaporate, while it seems that in the other system the Ba and the O evaporate separately. One could conclude from this fact that the two system are not

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On the Electronic and Adsorption Properties of Films SOV/181-1-11-12/27
of Barium Atoms on the Surface of Tungsten Coated With Oxygen

identical. Further examinations were made to establish whether the systems O-Ba-W and Ba-O-W are identical (Fig 2). The measuring results point to the fact that the two systems are not of the same valency, but that the system O-Ba-W easily changes over to the system Ba-O-W, which is the more favorable and is more stable energetically. There are 2 figures and 4 references, 3 of which are Soviet.

ASSOCIATION: Institut fiziki AN USSR, Kiyev (Institute of Physics of the AS UkrSSR, Kiyev)

SUBMITTED: March 24, 1959

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Card 2/2

VEDULA, Yu.S.; GAVRILYUK, V.M.[Havryliuk, V.M.]

Adsorption of atoms of barium on tungsten covered with an adsorbed
film of oxygen. Ukr. fiz. zhur. 5 no.6:816-833 N-D '60.

(MIRA 14:3)

1. Institut fiziki AN USSR.
(Adsorption)

9,3120 (1140, 1163, 1532)

35197
S/185/62/007/002/010/016
D299/D302

AUTHOR: Vedula, Yu.S.

TITLE: Electronic and adsorptive properties of a barium film
on thorium-oxide surface

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 7, no. 2, 1962,
196 - 200

TEXT: The electronic- and adsorptive properties of the system Ba-ThO₂ were investigated by a method, used earlier by the author for the system Ba-W. The method was described in detail in Yu.S. Vedula and V.M. Havrylyuk (Ref. 1: Ukr. Fizychn. zh., 3, 632, 1958). The thorium oxide was vaporized at a temperature of 2400°K approximately. A mass-spectrometer analysis of the vaporization products showed that the molecular beam was composed (at working temperatures) by a mixture of ThO and ThO₂ in approximately equal proportion. The Ba-atom source was a tantalum tube, filled by the getter "BATM" (BATI). Conclusions: The investigated system Ba-ThO₂ differs from

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S/185/62/C67/C62/C10/C16

Electronic and adsorptive properties ... D299/D302

the system Ba-W (earlier studied by the author), with regard to the optimum values of the work function and to the heat of adsorption. The work function of the ThO_2 -film, applied in 20 - 30 mono-molecular layers to a tungsten filament, depends on the temperature of the tungsten base; the work function equals 2.6 and 2.1 ev. at (base) temperatures of 300 and 1340°K, respectively. The dependence was measured of the work function of variously treated thorium-oxide films on the concentration of Ba-atoms, adsorbed on these films.

The minimum value of the work function varied (depending on method of preparation and treatment) between 2.2 - 2.5 ev. which exceeds the corresponding values for the system Ba-W. The dependence was measured of the adsorption heat of Ba (on the ThO_2 -films), on the concentration of the adsorbed Ba-atoms. With zero coating, the adsorption heat of Ba on ThO_2 -films, applied to a cold base, is 3.8 ev., and to hot base -- 4.65 ev.; the adsorption heat on ThO_2 -films decreases much faster than the adsorption heat of Ba on W. There are 4 figures and 7 references: 6 Soviet-bloc and 1 non-Soviet-

Card 2/3

S/185/62/007/002/010/016
Electronic and adsorptive properties ... D299/D302
bloc.

ASSOCIATION: instytut fizyky AN URSR (Institute of Physics of the
AS UkrRSR), Kyyiv

SUBMITTED: March 21, 1961

X

Card 3/3

VEDULA, Yu.S.; GAVRILYUK, V.M.; MEDVEDEV, V.K.

Effect of electron bombardment on the adsorption properties of a tungsten surface. Fiz. tver. tela 4 no.9:2550-2553 S '62.
(MIRA 15:9)

1. Institut fiziki AN UkrSSR, Kiyev.
(Electrons) (Tungsten)

L 8154-66 EWT(m)/EPF(n)-2/EWP(t)/EWP(b) IJP(c) JD/WW/JG
ACCESSION NR: AP5019887

UR/0181/65/007/008/2547/2549

AUTHOR: Vedula, Yu. S.; Gavrilyuk, V. M.

TITLE: Direct proof of the positive charge of adsorbed Th atoms

SOURCE: Fizika tverdogo tela, v. 7, no. 8, 1965, 2547-2549

TOPIC TAGS: thorium, physical diffusion, surface property, conduction electron, electron scattering, transport phenomenon, work function

ABSTRACT: In a search for experimental proof that electropositive adsorbed atoms have a positive charge, the authors investigated the surface diffusion of adsorbed Th atoms under the influence of a uniform electric field produced by the voltage drop in a conductor carrying electric current, and by the force of the "electronic wind" which is produced when the conduction electrons are scattered by the adsorbed atoms. The hypothesis was that if a film of adsorbed atoms is produced on the surface of the metal, and if the adsorbed atoms are capable of diffusing over the surface, then direct current flowing through the substrate should cause electric transport of the adsorbed-film matter along the crystal. The Th film was deposited on W, and the distribution of the work function along the crystal was measured by means of a moving electron gun, the position of which was measured with a micro-

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ACCESSION NR: AP5019887

scope. The diameter of the electron beam was $\sim 15\mu$. The distribution of the degree of the crystal was determined by plotting the work function against the time of film sputtering. The experiment is briefly described. The results show clearly presence of electric transport under the influence of the Coulomb force in the direction of the negatively-charged section of the crystal. However, the presence of "electron wind" in this case still remains open. "The authors thank Yu. M. Konoplev for help with preparing the experiment." Orig. art. has: 1 figure.

6

44,55

ASSOCIATION: Institut fiziki AN UkrSSR, Kiev (Institute of Physics AN UkrSSR)

SUBMITTED: 27Mar65

ENC: 00

SUB CODE: SS

44,55

NR REF Sov: 008

OTHER: 000

nw
Card 2/2

VEDUR, A.

"Dry transformer as an element of a complex combined device." Vol. 3, No. 5/6, 1954, p.61.

Radio, Sofiya.

SO: Eastern European Accessions List, Vol. 3, No. 11, Nov. 1954, L.O.

VEDUR, A.

TUU-100 measuring circuit. p.29.
(RADIO I TELEVIZIIA, Vol. 6, no. 1, 1957, Sofia, Bulgaria.)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 12, December 1957 Uncl.

VEDUR, Al.

Measuring instruments of radio lovers, Radio i televiziia 11 no.4:123~
124 '62.

VEDUR, A.

Some rules for the construction of volt-ampere meters for direct and
alternating currents. p. 11.
(RADIO I TELEVIZIIA, Vol. 6, no. 5, 1957, Sofia, Bulgaria.)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 12, December 1957 Uncl.

KASPEROVICH, Yevgeniy Konstantinovich; VEDUT, N.I., kand. ekon. nauk,
red.; LEONENKO, I., red. izd-va; TURTSEVICH, L., tekhn.red.

[Specialization and cooperation in the machinery industry of
the White Russian SSR] Spetsializatsiya i kooperirovaniye v ma-
shinostroenii Belorusskoi SSR. Minsk, Izd-vo Akad. nauk BSSR,
1962. 264 p. (MIRA 16:4)
(White Russia--Machinery industry)

ACCESSION NR: AP4012525

S/0056/64/046/001/0071/0079

AUTHORS: Leontovich, A. M.; Veduta, A. P.

TITLE: Mode excitation and explanation of the divergence of radiation from a ruby laser

SOURCE: Zhurnal eksper. i teoret. fiz., v. 46, no. 1, 1964, 71-79

TOPIC TAGS: laser, ruby laser, natural oscillation, resonant mode, resonator, plane parallel resonator, spherical resonator, laser spike, spike mode content, laser beam divergence, ruby homogeneity

ABSTRACT: The natural modes excited in each spike for a ruby laser with plane parallel mirrors was investigated with a high-speed SFR-2M camera operating in the "time magnification" mode. Rubies 5 cm long and 7 mm in diameter were used, and the distances between mirrors ranged from 5 to 49 cm. Simultaneous pictures of the radiation distribution in the near and far fields show that the excited modes correspond to those produced by a spherical rather than a plane-parallel resonator. This phenomenon is attributed to inhomogeneity.

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51"

ACCESSION NR: AP4012525

inogeneities produced in the crystal during its growth or by uneven heating by the pumping light. The inhomogeneities reduce strongly the region of mode excitation, decrease the distance between nearest maxima, and increase greatly the divergence of the beam. If the crystal is not of prime quality, scattering increases the divergence further. "The authors are deeply grateful to M. D. Galanin for discussion and constant interest in the work, and to L. A. Vaynshteyn for discussion." Orig. art. has: 5 figures, 10 formulas, and 2 tables.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva AN SSSR
(Physics Institute, AN SSSR)

SUBMITTED: 12Jul63 DATE ACQ: 26Feb64 ENCL: 00
SUB CODE: PH NO REF Sovi: 004 OTHER: 015

Card 2/2

L 25283-55 ENG(j)/EWA(k)/FDD/PAW(z) /
EWP(k)/EWA(-12)/PAW(h) Pn-1/Pn-1/Pf-1/Pf-1/P1-d/Peb TJP(c) WG/WH
66
65

AUTHOR: Yefim A. Slobodkin

TITLE: Changes in a ruby laser resonator due to heating by the pumping source

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 48, no. 1, 1965,
87-93

TOPIC TAGS: ruby laser, resonator distortion, gas laser interferometer, thermal
distortion, gas laser, ruby laser heating

ABSTRACT: An interferometric method was used to study the changes in the resonator
of a ruby laser caused by heating by the pumping source. An He-Ne gas laser with
emission at $\lambda = 6328 \text{ \AA}$ was used as a coherent light source for the interferometer.
The gas laser beam, transformed into a parallel beam by means of lenses, was allowed
to pass through a semitransparent plate and to strike a pumped ruby at right angles.
The front end of the ruby was 45% transparent, the rear end silver coated. The
pattern set up by the interference of two beams reflected in the resonator was
photographed by means of an interference filter. The distance of the ruby from the
source from the ruby and the external pumping radiation were approximately
the same and approximately 7 cm long and
filters for $\lambda = 6328 \text{ \AA}$. The ruby rod was 10 mm in diameter and approximately 10 cm long and
their lateral surfaces were polished. The pumping was by an LFK-121 lamp. The
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L 25283-65

ACCESSION NR: AP5004378

distribution, number, and shape of the interference bands varied during pumping, which indicates that the total optical length and shape of the resonator undergo considerable changes due to heating. The nonuniform heating is due to the focusing of the pumping light by the lateral surfaces of the ruby and the generation of internal modes in the ruby. Heating of the ruby rods was proportional to the concentration of strontium in the ruby. The energy absorbed by various ruby rods during pumping and the efficiency of the pumping source were calculated. The theoretical and experimental results varied by a factor of 1.5-2. The discrepancy may be due to the absorption of pumping light by the glass walls of the resonator, the absorption of pumping light in the metastable state of the excited strontium atoms, and the effect of the laser power output and the number of photons in the excited state. The article has: 4 figures and 1 table.

ASSOCIATION: Fizicheskiy Institut im. D. M. Gor'kogo Akademii nauk SSSR 'Institute of Physics, Academy of Sciences, SSSR'

NO REF SOV: 009

212

OTHER: COB

ATD PRESS: 3184

LEVIN, Iosif Ben'yaminovich; PEKELIS, Grigoriy Borisovich;
YANCHENKO, Aleksandr Pavlovich; VEDUTA, N.I., red.;
PEKELIS, G.B., red.; DAVIDOVICH, Z., red.izd-va;
KOVALENKO, A., tekhn. red.

[Power engineering in the White Russian S.S.R. and its
potentials] Elektroenergetika BSSR i ee rezervy. Minsk,
Izd-vo AN BSSR, 1963. 215 p. (MIRA 17:3)

YELOTA, Nikolay Ivanovich; YASHCHERITIN, V. I., doktor tekhnicheskikh nauk, red.

[Economic efficiency of new techniques] Ekonomicheskaya effektivnost' novoi tekhniki. Minsk, Izd-vo "Nauka," 1964. 335 p.

VEDUTA, N.I., red.

[Economic resources in socialist industry] Rezervy ekonomii v
sotsialisticheskoi promyshlennosti. Minsk, 1961. 258 p.
(MIRA 16:2)

1. Akademiya navuk BSSR, Minsk. Instytut ekonomiki.
(White Russia--Industries)

VEDUTA, N. I.

Institute of Economics of the Academy of Sciences of the White
Russian S.S.R. Vop. ekon. no.7:170-172 Jl '58. (MIRA 11:8)
(White Russia—Economic policy)

VEDITA, N. I.

- 1) Ya. Sosnytsky - The Differential Equations of Expended Reproduction
- 2) I. V. Shaturovich - Optimal Planning and Economic Indicators
- 3) A. A. Shiryayev - Mathematical Analysis or the Optimal Composition of Production
- 4) A. A. Shiryayev - Mathematical Analysis of Rates and Proportions in the National Economy (Principally in Determining the Economic Efficiency of Capital Investment) in Expanded Reproduction
- 5) B. I. Tsvetkov - Price Relationships in Expanded Reproduction
- 6) B. I. Tsvetkov, B. P. Kharlamov - Price Relationships in Statistical [aid] and Dynamic Models of a Socialist National Economic Balance in Physical Terms
- 7) I. M. Dardik and V. S. Vaynshteyn - Statistical Programming Methods and Material Supply
- 8) Breslau, Berlin - 15 December 1959, 1600 hours
- II. The Theory of Linear Programming
- 1) G. B. Danzig - Methods for the Solution of Linear Programming Problems
- 2) A. Z. Juran - Algorithmic Solutions of Transport Problems Through Approximation by Areas of Hypoelliptically Optimal Plans
- 3) Ya. P. Gerinich - The Algebra of Linear Programming
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AUTHOR: Vedutin, V. F. (Mining engineer); Kropotov, V. A. (Mining engineer); Beketov,
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TITLE: Some results of an investigation into the effect of the explosion of
shot-hole cumulative charges

SOURCE: Nauchno-tekhnicheskoye gornoye obshchestvo. Very*vnyye delo, no. 54/11,
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TOPIC TAGS: blasting, mine blasting, cumulative charge, shot hole, blast hole,
horizontal excavation

ABSTRACT: The authors discuss some results obtained in a detailed study of the effectiveness of shothole charges of cumulative effect in horizontal excavation work. The study was based on the use of a charge with lateral cumulative surface, the characteristic feature of such a charge being the location of the cumulative cut or gap not at the end of the charge, but along its side and running the full length of the charge. This makes it possible to obtain a greater active volume of explosive material and to employ it more rationally. In such charges, the cumulative stream forms along the entire length of the charge, while the direction of the effect of the stream promotes a more efficient formation of an additional open surface. The study was conducted under laboratory and field conditions. In Card 1/3